ANNUAL

WATER QUALITY REPORT

WATER TESTING
PERFORMED IN 2015

Presented By
Town of Clayton

PWS ID#: 03-51-020

Our Mission Continues

We are proud to present once again our annual water quality report covering all testing performed between January 1 and December 31, 2015.

We appreciate your patience and continued support as we work to improve our water system through various projects throughout the Town. These projects help us meet the ongoing mission to deliver the best-quality drinking water to our customers. By striving to meet the requirements of the SDWA, we are ensuring a future of healthy, clean drinking water for years to come. Our goals continue to include water conservation and community education as we meet the needs of all of our water users. Thanks again for your continued support as we work to provide you with high-quality drinking water and customer service.

Please remember that we are always available to assist you, and we encourage you to share with us your thoughts about the information provided in this report. Should you ever have any questions or concerns about your water, feel free to contact us. After all, well-informed customers are our best allies.

Important Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons such as those with cancer undergoing chemotherapy, those who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The U.S. EPA/CDC (Centers for Disease Control and Prevention) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791 or http://water.epa.gov/drink/hotline.

Substances That Could Be in Water

To ensure that tap water is safe to drink, the U.S. EPA prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration regulations establish limits for contaminants in bottled water that must provide the same protection for public health. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of these contaminants does not necessarily indicate that the water poses a health risk.

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals, in some cases, radioactive material, and substances resulting from the presence of animals or from human activity. Substances that may be present in source water include:

Microbial Contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, or wildlife;

Inorganic Contaminants, such as salts and metals, which can be naturally occurring or may result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming;

Pesticides and Herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses;

Organic Chemical Contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production and may also come from gas stations, urban stormwater runoff, and septic systems;

Radioactive Contaminants, which can be naturally occurring or may be the result of oil and gas production and mining activities.

For more information about contaminants and potential health effects, call the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

Failure in Flint

The national news coverage of water conditions in Flint, Michigan, has created a great deal of confusion and consternation over the past year. The water there has been described as being corrosive; images of corroded batteries and warning labels on bottles of acids come to mind. But is corrosive water necessarily bad?

Corrosive water can be defined as a condition of water quality that will dissolve metals (iron, lead, copper, etc.) from metallic plumbing at an excessive rate. There are a few contributing factors but, generally speaking, corrosive water has a pH of less than 7; the lower the pH, the more acidic, or corrosive, the water becomes. (By this definition, many natural waterways throughout the country can be described as corrosive.) While all plumbing will be somewhat affected over time by the water it carries, corrosive water will damage plumbing much more rapidly than water with low corrosivity.

By itself, corrosive water is not a health concern; your morning glass of orange juice is considerably more corrosive than the typical lake or river. What is of concern is that exposure in drinking water to elevated levels of the dissolved metals increases adverse health risks. And there lies the problem.

Public water systems are required to maintain their water at optimal conditions to prevent it from reaching corrosive levels. Rest assured that we routinely monitor our water to make sure that what happened in Flint never happens here. For more information on how corrosivity impacts water quality, download this informative pamphlet: http://goo.gl/KpTmXv.

Lead in Home Plumbing

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. We are responsible for providing high-quality drinking water, but we cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at www.epa.gov/lead.

Source Water Assessment

According to the completed Source Water Assessment, the susceptibility rating for the source water was determined to be in the moderate category. The susceptibility rating does not refer to the actual water quality but rather to the potential of the source water to become contaminated. Information about the Source Water Assessment can be obtained by contacting the Public Water Supply Section by e-mail at SWAP@ncmail.net, or by regular mail at SWAP, Public Water Supply Section, 1634 Mail Service Center, Raleigh, North Carolina, 27699-1634. You may also contact the source water assessment staff by phone at (919) 715-2633.

Where Does My Water Come From?

The Town of Clayton relies on Johnston County Utilities for its source water. The water treatment facility is located a half-mile east of the Town of Wilsons Mills. Johnston County Public Utilities' source water is surface water from the Neuse River. To learn more about our watershed on the Internet, go to the US EPA's Surf Your Watershed Web site at www.epa.gov/surf/.

Community Participation

Additional information can be obtained, or your comments received, at the monthly Town Council meetings, which you are welcome to attend. These meetings are held on the first and third Mondays of every month at 6:30 p.m. at the Clayton Center Council Chambers, 111 East Second Street, Clayton, North Carolina.

Questions?

For more information about this report or for any questions relating to your drinking water, please contact Byron W. Poelman, Utility Service Superintendent, at (919) 553-1530 or bpoelman@townofclaytonnc.org.

You may not be aware of it, but every time you pour fat, oil, or grease (FOG) down your sink (e.g., bacon grease), you are contributing to a costly problem in the sewer collection system. FOG coats the inner walls of the plumbing in your house as well as the walls of underground piping throughout the community. Over time, these greasy materials build up and form blockages in pipes, which can lead to wastewater backing up into parks, yards, streets, and storm drains. These backups allow FOG to contaminate local waters, including drinking water. Exposure to untreated wastewater is a public health hazard. FOG discharged into septic systems and drain fields can also cause malfunctions, resulting in more frequent tank pump-outs and other expenses.

Communities spend billions of dollars every year to unplug or replace grease-blocked pipes, repair pump stations, and clean up costly and illegal wastewater spills. Here are some tips that you and your family can follow to help maintain a well-run system now and in the future:

NEVER:

- Pour fats, oil, or grease down the house or storm drains.
- Dispose of food scraps by flushing them.
- Use the toilet as a waste basket.

ALWAYS:

- Scrape and collect fat, oil, and grease into a waste container such as an empty coffee can, and dispose of it with your garbage.
- Place food scraps in waste containers or garbage bags for disposal with solid wastes.
- Place a wastebasket in each bathroom for solid wastes like disposable diapers, creams and lotions, and personal hygiene products including nonbiodegradable wipes.

Is tap water cheaper than soda?

Yes! You can refill an 8 oz. glass of tap water approximately 15,000 times for the same cost as a six-pack of soda pop. And, water has no sugar or caffeine.

How long can a person go without water?

Although a person can live without food for more than a month, a person can only live without water for approximately one week.

When was drinking water first regulated?

The Safe Drinking Water Act (SDWA) of 1974 represents the first time that public drinking water supplies were protected on a federal (national) level in the U.S. Amendments were made to the SDWA in 1986 and 1996.

Seventy-one percent of Earth is covered in water: how much is drinkable?

Oceans hold about 96.5 percent of all Earth's water. Only three percent of the earth's water can be used as drinking water. Seventy-five percent of the world's fresh water is frozen in the polar ice caps.

How much water do we use every day?

The average person in the U.S. uses 80 to 100 gallons of water each day. (During medieval times a person used only 5 gallons per day.) It takes 2 gallons to brush your teeth, 2 to 7 gallons to flush a toilet, and 25 to 50 gallons to take a shower.

Sampling Results

During the past year, hundreds of water samples have been analyzed in order to determine the presence of any radioactive, biological, inorganic, volatile organic, or synthetic organic contaminants. The tables below show only those contaminants that were detected, both in the Town of Clayton's water system and in the Johnston County Utilities' water system. We feel that it is important that you know exactly what was detected and how much of each substance was present in the water.

The state requires us to monitor for certain substances less often than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

We participated in the 3rd stage of the EPA's Unregulated Contaminant Monitoring Rule (UCMR3) program by performing additional tests on our drinking water. UCMR3 benefits the environment and public health by providing the EPA with data on the occurrence of contaminants suspected to be in drinking water, in order to determine if the EPA needs to introduce new regulatory standards to improve drinking water quality. Contact us for more information on this program.

REGULATED SUBSTANCES

				Town of Clayton		Johnston County			
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Chloramines (ppm)	2015	[4]	[4]	1.64	0.58–2.75	3.17	0.0–4.0	No	Water additive used to control microbes
Chlorine (ppm)	2015	[4]	[4]	2.50	0.55–4.10	0.71	0.0–3.66	No	Water additive used to control microbes
Fluoride (ppm)	2015	4	4	NA	NA	0.58	NA	No	Erosion of natural deposits; Water additive that promotes strong teeth; Discharge from fertilizer and aluminum factories
Haloacetic Acids [HAAs] (ppb)	2015	60	NA	34.4	14.3–36.5	37	14–46	No	By-product of drinking water disinfection
Simazine (ppb)	2015	4	4	NA	NA	0.092	0.0–0.277	No	Herbicide runoff
TTHMs [Total Trihalomethanes] (ppb)	2015	80	NA	47.5	26–61	54	21–71	No	By-product of drinking water disinfection
Total Organic Carbon [TOC][1] (removal ratio)	2015	TT	NA	NA	NA	1.45	1.22–1.54	No	Naturally present in the environment
Turbidity[2] (NTU)	2015	TT = 1 NTU	NA	NA	NA	0.183	NA	No	Soil runoff
Turbidity (Lowest monthly percent of samples meeting limit)	2015	TT = 95% of samples < 0.3 NTU	NA	NA	NA	100	NA	No	Soil runoff

Tap water samples were collected for lead and copper analyses from sample sites throughout the community.

				Town of Clayton		Johnston County			
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	MCLG	AMOUNT DETECTED (90TH%TILE)	SITES ABOVE AL/TOTAL SITES	AMOUNT DETECTED (90TH%TILE)	SITES ABOVE AL	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2014	1.3	1.3	0.666	0/30	0.077[3]	0	No	Corrosion of household plumbing systems; Erosion of natural deposits

SECONDARY SUBSTANCES

				Town of Clayton		Johnston County			
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	SMCL	MCLG	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
pH (Units)	2015	6.5–8.5	NA	8.07	7.61–8.82	7.3	NA	No	Naturally occurring

UNREGULATED CONTAMINANT MONITORING REGULATION 3 (UCMR3) [4]

		Town of Clayton		Johnston County	
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH
1,4-Dioxane (ppb)	2014	0.13 (Average)	0.12–0.13	0.18	ND–0.18
Chlorate (ppb)	2014	608 (Average)	280–970	1,130	96–1,130
Chromium [Total] (ppb)	2014	0.3	ND–0.3	0.25	ND–0.25
Chromium, Hexavalent (ppb)	2014	0.10 (Average)	0.07–0.12	0.12	0.083–0.12
Strontium (ppb)	2014	53 (Average)	52–55	55.4	39–55.4

UNREGULATED SUBSTANCES - JOHNSTON COUNTY [4]

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
Sodium (ppm)	2015	38.1	NA	Naturally occurring

[1] Depending on the TOC in the source water, the Johnson County system MUST have a certain % removal of TOC or must achieve alternative compliance criteria. If they do not achieve that % removal, there is an alternative % removal. If they fail to meet the alternative % removal, then they are in violation of a Treatment Technique.

[2] Turbidity is a measure of the cloudiness of the water. It is monitored because it is a good indicator of the effectiveness of the filtration system. The turbidity rule requires that 95% or more of the monthly samples must be less than or equal to 0.3 NTU.

[3] Sampled in 2015.

[4] Unregulated contaminants are those for which the U.S. EPA has not established drinking water standards. The purpose of monitoring unregulated contaminants is to assist the EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulations are warranted.

Definitions

AL (Action Level): The concentration of a contaminant that, if exceeded, triggers treatment or other requirements that a water system must follow.

LRAA (Locational Running Annual Average): The average of sample analytical results for samples taken at a particular monitoring location during the previous four calendar quarters under the Stage 2 Disinfectants and Disinfection Byproducts Rule.

MCL (Maximum Contaminant Level): The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

MCLG (Maximum Contaminant Level Goal): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

MRDL (Maximum Residual Disinfectant Level): The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

MRDLG (Maximum Residual Disinfectant Level Goal): The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

NA: Not applicable

NTU (Nephelometric Turbidity Units): Measurement of the clarity, or turbidity, of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

pCi/L (picocuries per liter): A measure of radioactivity.

ppb (parts per billion): One part substance per billion parts water (or micrograms per liter).

ppm (parts per million): One part substance per million parts water (or milligrams per liter).

removal ratio: A ratio between the percentage of a substance actually removed to the percentage of the substance required to be removed.

SMCL (Secondary Maximum Contaminant Level): SMCLs are established to regulate the aesthetics of drinking water like appearance, taste and odor.

TT (Treatment Technique): A required process intended to reduce the level of a contaminant in drinking water.